

# RUTGERS

School of Dental Medicine

## **ENHANCING LEARNING AND RETENTION: AN INTEGRATED ASSESSMENT PROGRAM IN PREDOCTORAL DENTAL EDUCATION**

**Kim E. Fenesy, DMD**  
Vice Dean

**Kenneth Markowitz, DDS, MDS**  
Chair, Curriculum Committee

**Emily Sabato, EdD**  
Assistant Dean for Academic Affairs

**Bianca Mena**  
Program Support Specialist

# Session Outline



Introductions



Background on RSDM Accreditation and Assessment Needs



Brief Overview of RSDM Curriculum



Integrated Assessments



Closing the Loop



Q&A



# Learning Objectives

- Describe the purpose of integrating basic and clinical science content throughout their curriculum, if applicable, and the concepts of horizontal and vertical curriculum integration.
- Describe elements of their school's curriculum which may benefit from integrated assessments.
- Develop a method of reviewing assessment outcomes to implement curricular changes to improve student learning and retention.

## Brief Background

- School within Rutgers University – RBHS
  - 8 post-graduate advanced education programs
  - 4 year predoctoral dental program (focus of this presentation)
    - 450 predoctoral students (125/graduating class)



# External Demands on RSDM

- Commission on Dental Accreditation (CODA)
  - From CODA Predoctoral Self Study Guide

## **Scientific Discovery and the Integration of Knowledge**

The interrelationship between the basic, behavioral, and clinical sciences is a conceptual cornerstone to clinical competence. Learning must occur in the context of real health care problems rather than within singular content-specific disciplines. Learning objectives that cut across traditional disciplines and correlate with the expected competencies of graduates enhance curriculum design. Beyond the acquisition of scientific knowledge at a particular point in time, the capacity to think scientifically and to apply the scientific method is critical if students are to analyze and solve oral health problems, understand research, and practice evidence-based dentistry.

# External Demands on RSDM

- Commission on Dental Accreditation (CODA)
  - Standards relevant to Integration

**2-7** Biomedical, behavioral and clinical science instruction **must** be integrated and of sufficient depth, scope, timeliness, quality and emphasis to ensure achievement of the curriculum's defined competencies.

**2-15** Graduates **must** be competent in the application of biomedical science knowledge in the delivery of patient care.

**Intent:**

*Biological science knowledge should be of sufficient depth and scope for graduates to apply advances in modern biology to clinical practice and to integrate new medical knowledge and therapies relevant to oral health care.*

**2-16** Graduates **must** be competent in the application of the fundamental principles of behavioral sciences as they pertain to patient-centered approaches for promoting, improving and maintaining oral health.

# External Demands on RSDM

- Integrated National Board Dental Examination
  - Required for Graduation AND Licensure!



# Audience Poll (1-2 minutes)

Do your institutions face  
similar demands?

*Please answer in chat!*



# RSDM Curriculum

## Structured, “lockstep” predoctoral curriculum

- D1 - “Basic” sciences & preclinic
- D2 – “Basic” & “Translational” sciences & preclinic; introduction to patient care
- D3 – “Translational” sciences & patient care
- D4 – primarily patient care

Approx. 90 credits/year

30-50 written exams a year (plus quizzes and practicals)

# RSDM Curriculum Development

## Curriculum Committee

- Course Reviews at least every three years
  - Assess current content, teaching, redundancies, etc
- Basic Science Workgroup
- Historic – reviews of vertical and horizontal integration

## Academic Affairs

- Schedule Management
- “front line” for changes

# Basic Science Workgroup

- Multi-phase process to ensure clinical integration across early stages of curriculum
- Development of clinically relevant questions for course-level assessments
  - “Integration!” from Day 1!

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# Audience Poll (2-3 minutes)

Do your institutions do  
integrated/multicourse exams?

*Please answer in chat!*

How RSDM demonstrates integration of clinical and biomedical, behavioral, and health sciences across curriculum

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## Second Year (D2) integrated exam

- implemented Fall 2020

## Third Year (D3) integrated exam

- implemented Fall 2021

## Four Year (D4) Global Assessment

- implemented Fall 2017

# D2 & D3 Integrated Exams



Mid-curriculum assessments for comprehensive knowledge of basic, behavioral, and clinical sciences as applicable to clinical dentistry, diagnosis, treatment planning, and prognosis evaluation



Currently administered electronically over 1 session per exam

# Brief overview of integrated exam development

Faculty develop course level exams

- posted by Academic Affairs/housed in ExamSoft

“Integration” tagging/categorization submitted to Academic Affairs

Academic Affairs initial pass over question for basic editing

- Formatting standardization

Curriculum Committee review of questions

- Accept
- Reject
- Edit

Assembly of integrated Exam by Academic Affairs/Curriculum Committee chair

Vetting of exam by Curriculum Committee & Basic Science Workgroup

# Format of D2 & D3 integrated exams

120 questions over 4 topical areas covering multiple disciplines/departments

- D2
  - Anatomic Science/Neuroscience
  - Biochemistry/Physiology
  - Histology/Microbiology/Pathology
  - Preclinical Sciences
- D3
  - Oral infections (micro, immunology, periodontics, endodontics)
  - Development & Structure (orthodontics, pediatric dentistry, anatomy)
  - Function (anatomy, physiology, neuroscience, occlusion)
  - Patient management (pharmacology, behavioral science)

Must pass each topical area independently

Must pass to move onto next year – Remediation is offered



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# Audience Poll (1-2 minutes)

Do your institutions have a capstone  
course/project/exam?

*Please answer in chat!*

# D4 Global Assessment

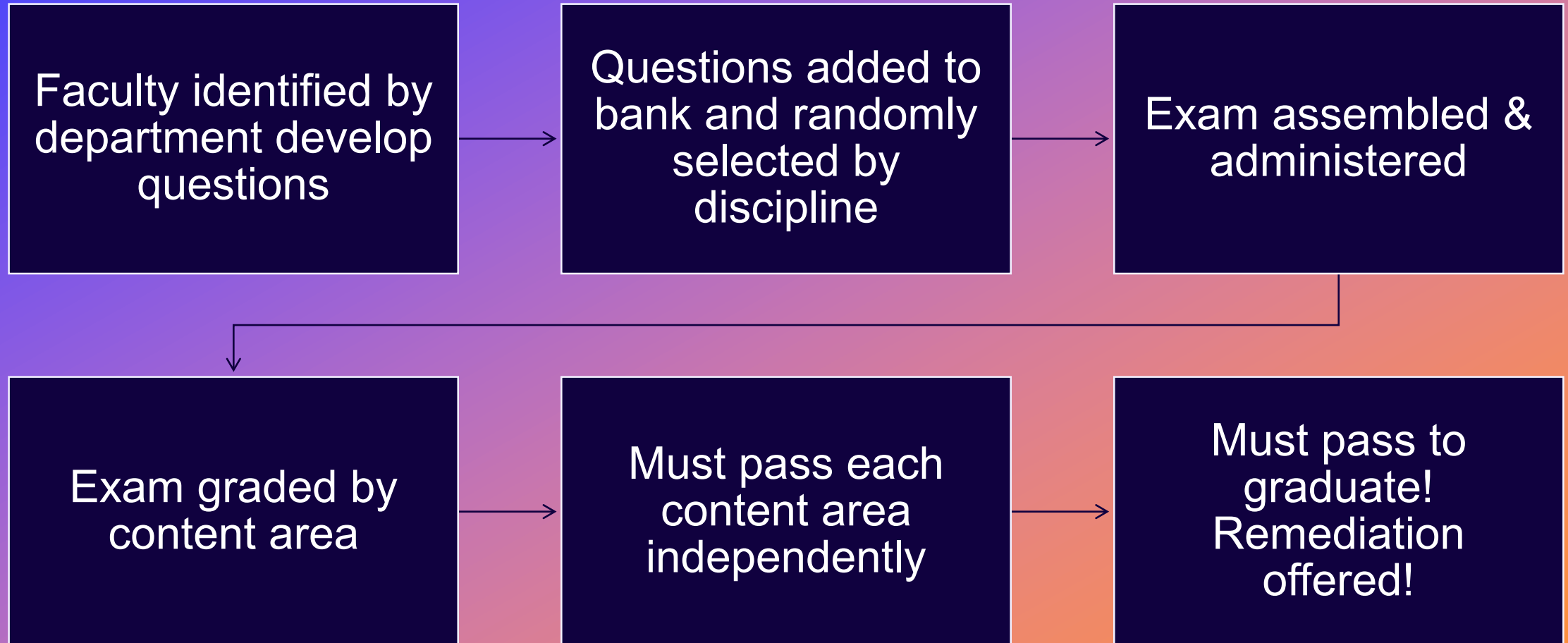


Assesses for comprehensive knowledge of basic, behavioral, and clinical sciences as applicable to clinical dentistry, diagnosis, treatment planning, and prognosis evaluation



Currently administered electronically over 2 sessions

# Brief overview of Global Assessment Development



# Format of D4 Global Assessment

Variable questions – 2 1.5 hour exams

Covers multiple content areas

- Diagnostic Science
- Endodontics
- Oral Medicine
- Oral Surgery
- Operative
- Periodontics
- Pediatric Dentistry
- Prescription Writing
- Prosthodontics
- Special Care
- TMD to be added

Must pass each topical area independently

Must pass to graduate– Remediation is offered

Serves as a “capstone” competency assessment, with multiple simulated patient cases

# Closing the Loop



Dissemination of results to the students



Dissemination of results to Curriculum Committee, Students



Curriculum Changes based on outcomes

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# Audience Poll (3-4 minutes)

What strategies do you employ to “close the loop” on high stakes assessments?

Are there different strategies for course level versus integrated assessments?

*Please answer in chat!*

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# QUESTIONS & DISCUSSION



# Thank you!

Contact us!

Emily  
Sabato

- [sabatoeh@sdm.rutgers.edu](mailto:sabatoeh@sdm.rutgers.edu)

Ken  
Markowitz

- [markowkj@sdm.rutgers.edu](mailto:markowkj@sdm.rutgers.edu)

Kim  
Fenesy

- [fenesy@sdm.rutgers.edu](mailto:fenesy@sdm.rutgers.edu)